

THE TOOL COMPANY

# SDS+ ROTARY HAMMER DRILLS

■ STOCK No. 57828 110V  
57829 240V  
57830 110V  
57831 240V

■ PART No. PHD520VC  
PHD520VC  
PHD624VC  
PHD624VC

## • INSTRUCTIONS •

**IMPORTANT:** PLEASE READ THESE INSTRUCTIONS CAREFULLY TO ENSURE THE SAFE AND EFFECTIVE USE OF THIS TOOL.



## GENERAL INFORMATION

This manual has been compiled by Draper Tools and is an integrated part of the power tool equipment, which should be kept with the machine.

This manual describes the purpose for which this tool has been designed and contains all the necessary information to ensure its correct and safe use. We recommend that this manual is read before any operation of the machine, before performing any kind of adjustment to the machine, and prior to any maintenance tasks. By following all the general safety instructions contained in this manual, it will ensure both machine and operator safety, together with longer life of the tool itself.

All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the machine.

Whilst every effort has been made to ensure accuracy of information contained in this manual, the Draper Tool policy of continuous improvement determines the right to make modifications without prior warning.



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## DECLARATION OF CONFORMITY

We  
Draper Tools Ltd. Hursley Road, Chandler's Ford, Eastleigh, Hampshire.  
SO53 1YF. England.

Declare under our sole responsibility that the product:

**Stock Nos:-** 57828, 57829, 57830 & 57831.

**Part Nos:-** PHD520VC, PHD624VC.

**Description:-** SDS PN. Hammer.

To which this declaration relates is in conformity with the following directive(s)  
98/37/EC & 89/336EEC.

With reference to:

EN50144, EN55014-1, EN55014-2 & EN60555.

JOHN DRAPER  
Managing Director



## SPECIFICATION

Part No. ....	PHD520VC .....	PHD624VC .....
Stock No .....	57828 .....	57830 .....
.....	57829 .....	57831 .....
Input.....	500W .....	600W .....
Drilling capacities:		
Steel .....	13mm .....	13mm .....
Wood .....	30mm .....	35mm .....
Concrete.....	20mm .....	24mm .....
Chuck type .....	SDS Plus .....	SDS Plus .....
Speed (no load) .....	0-950rpm .....	0-1100/0-2500rpm .....
Noise pressure level.....	83.5dbA .....	85.5dbA .....
Noise power level .....	88.5dbA .....	96.5dbA .....
Vibration level.....	12M/sec <sup>2</sup> .....	8.6M/sec <sup>2</sup> .....
Weight .....	2.2kg .....	26kg .....

### WEAR EAR PROTECTION



## GUARANTEE (Hand held professional electric power tools)

Draper hand held professional electric power tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship for a period of 12 months from the date of purchase except where tools are hired out when the guarantee period is reduced to ninety days from the date of purchase.

Should the machine develop any fault where warranty applies, arrangements will be made for the tool to be returned free-of-charge to the Service Centre at Draper Tools Limited.

Please contact: **DRAPER HELPLINE – 02380 494344**

A proof of purchase must be provided with the tool.

If upon inspection it is found that the fault occurring is due to defective materials or workmanship the product will be repaired and tested as soon as possible free of charge, normally within five working days. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accident, or repairs attempted by any personnel other than the Service Centre at Draper Tools Limited or other authorised agent.

**Note:** If the tool is found not to be within the Terms of Warranty, repair and carriage charges will be quoted and made accordingly.

This guarantee applies in lieu of any other guarantee expressed or implied and variations of its terms are not authorised.

Your Draper guarantee is not effective unless you produce a dated receipt or invoice to verify your proof of purchase within the 12 month period.

Please note that this guarantee is an additional benefit and does not affect your statutory rights.

Draper Tools Limited.

## POWER SUPPLY

### CONNECTING YOUR MACHINE TO THE POWER SUPPLY: (240V)

To eliminate the possibility of an electric shock your machine has been fitted with a BS approved, non rewirable moulded plug and cable which incorporates a fuse, the value of which is indicated on the pin face of the plug. Should the fuse need to be replaced an **ASTA** approved BS1362 fuse must be used of the same rating, marked thus **ASTA**. The fuse cover is detachable, never use the plug with the cover omitted. If a replacement fuse cover is required, ensure it is of the same colour as that visible on the pin face of the plug (i.e. red). Fuse covers are available from your Draper Tools stockist.

If the fitted plug is not suitable, it should be cut off and destroyed. \*The end of the cable should now be suitably prepared and the correct type of plug fitted. See below.

#### \*WARNING:

A plug with bare flexible wires exposed is hazardous if engaged in a live power socket outlet.

#### WARNING: THIS APPLIANCE IS DOUBLE INSULATED.

Blue – Neutral, Brown – Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter 'N' or coloured black or blue.

The wire which is coloured brown must be connected to the terminal which is marked with the letter 'L' or coloured red or brown.

### CONNECTING YOUR MACHINE TO THE POWER SUPPLY (110V)

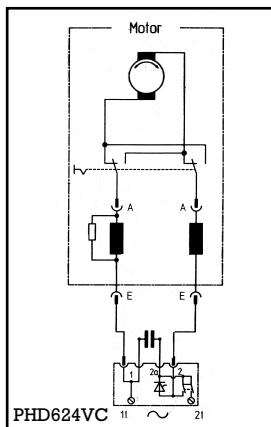
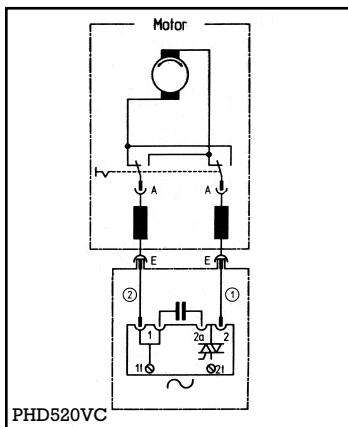
To eliminate the possibility of an electric shock your machine has been fitted with a BS approved, rewirable plug and cable. If the fitted plug is not suitable, it should be removed, the end of the cable should be suitably prepared and the correct type of plug fitted. See below.

#### WARNING: THIS APPLIANCE IS DOUBLE INSULATED.

Single phase 110 volt machines must be connected using the relevant coding and matching the colour of the flexible cable to that of the plug. The procedure is as follows:

1. Connect brown coloured core to plug terminal marked letter 'L' (live).
2. Connect blue colour core to plug terminal marked letter 'N' (neutral).

## WIRING DIAGRAM



# GENERAL SAFETY INSTRUCTIONS FOR POWER TOOLS

## WARNING

Please read the following instructions carefully, failure to do so could lead to serious personal injury.

## IMPORTANT

Draper Tools Limited recommends that this machine should not be modified or used for any application other than that for which it was designed. If you are unsure of its relative applications do not hesitate to contact us in writing and we will advise you.

### 1. KNOW YOUR POWER TOOL

Read and understand the owner's manual and labels affixed to the tool. Learn its application and limitations as well as the specific potential hazards peculiar to this tool.

### 2. KEEP WORK AREA CLEAN

Cluttered areas and benches invite accidents. Floors must not be slippery due to oil or sawdust.

### 3. AVOID DANGEROUS ENVIRONMENTS

Do not use power tools in damp or wet locations, or expose them to rain. Keep work area well lit. Provide adequate space surrounding the work area. Do not use in environments with a potentially explosive atmosphere.

### 4. KEEP CHILDREN AWAY

All visitors should be kept a safe distance from work area.

### 5. STORED TOOLS

When not being used, all tools should be stored in a dry, locked cupboard or out of the reach of children.

### 6. WEAR PROPER CLOTHING

Do not wear loose clothing, neckties or jewellery (rings, wristwatches) to catch in moving parts. NONSLIP footwear is recommended. Wear protective hair covering to contain long hair. Roll long sleeves above the elbow.

### 7. USE SAFETY GOGGLES (Head Protection)

Wear CE approved safety goggles at all times. Normal spectacles only have impact resistant lenses, they are NOT safety glasses. Also, use face or dust mask if application is dusty and ear protectors (plugs or muffs) during extended periods of operation.

### 8. NOISE LEVELS

Some types of machines may have high noise levels when working. In such cases ear protection must be worn.

### 9. VIBRATION LEVELS

Hand held power tools produce different vibration levels. You should always refer to the specifications and relevant Health and Safety guide.

### 10. DUST EXTRACTION

If your tool is fitted with a dust extraction fitting, always ensure that it is connected and being used with a dust extractor. Vacuum cleaners can be used if suitable for the material being extracted.

### 11. PROTECT YOURSELF FROM ELECTRIC SHOCK

When working with power tools, avoid contact with any earthed items (e.g. pipes, radiators, hobs and refrigerators, etc.). If you are using a power tool in extreme conditions (e.g. high humidity or generating metal dust), always use an RCD (residual current device) at the power socket.

### 12. STAY ALERT

Always watch what you are doing and use common sense. Do not operate a power tool when you are tired or under the influence of alcohol or drugs.

### 13. WHEN WORKING OUT OF DOORS

Only use extension leads designed for that purpose.

### 14. ACCESS TO MAINS SOCKET

If a stationary machine is fitted with a moulded plug and cable, the machine should not be positioned so that access to the mains socket is restricted.

### 15. DISCONNECT POWER TO THE TOOL

When not in use, before servicing and when changing accessories such as cutters, etc.

### 16. AVOID ACCIDENTAL STARTING

Make sure the switch is in the OFF position before plugging the machine into the power supply.

### 17. NEVER LEAVE MACHINE RUNNING UNATTENDED

Turn power off. Do not leave machine until it comes to a complete stop.

### 18. DO NOT ABUSE THE CORD

Never carry the tool by the power cable or pull it from the socket. Keep the power cable away from heat, oil and sharp edges.

### 19. NEVER STAND ON TOOL

Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted. Do not store materials above or near the tool, so that it is necessary to stand on the tool to reach them.

### 20. CHECK DAMAGED PARTS

Check for damage to parts, breakage of parts, mountings and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

### 21. KEEP GUARDS IN PLACE

And in working order.

### 22. MAINTAIN TOOLS WITH CARE

Keep tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories. All extension cables must be checked at regular intervals and replaced if damaged. Always keep the hand grips on the tool clean, dry and free of oil and grease.

### 23. USE RECOMMENDED ACCESSORIES

Consult the owners manual for recommended accessories. Follow the instructions that accompany the accessories. The use of improper accessories may cause hazards.

### 24. REMOVE ADJUSTING KEYS AND WRENCHES

Form a habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.

### 25. SECURE WORK

Use clamps or a vice to hold work. This frees both hands to operate the tool.

### 26. DO NOT OVERREACH

Keep proper footing and balance at all times.

### 27. USE RIGHT TOOL

Do not force the tool or attachment to do a job for which it was not designed.

### 28. DO NOT FORCE TOOL

It will do the job better and safer at the rate for which it was designed.

### 29. DIRECTION OF FEED

Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

### 30. WHEN DRILLING OR SCREWING INTO WALLS

Always make sure there is no danger of hitting any hidden power cables, water or gas pipes in the wall.

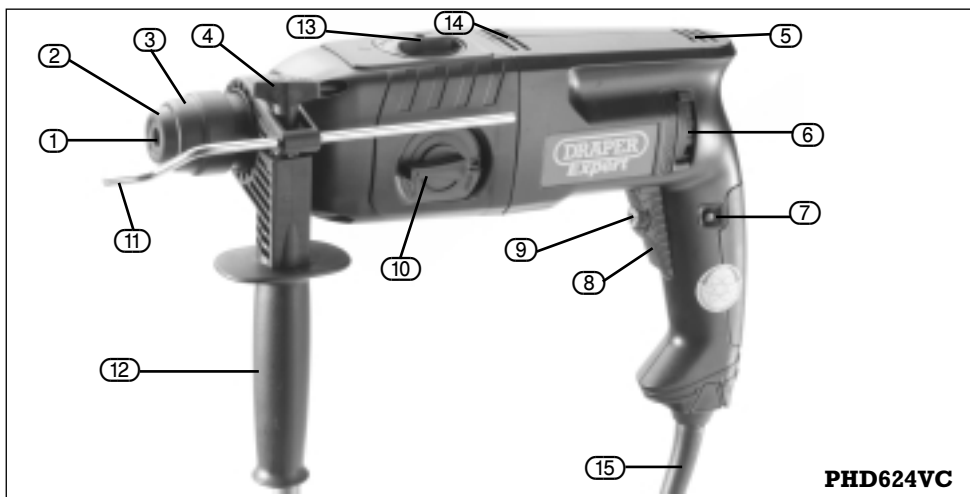
## IMPORTANT NOTE

**Residual Risk.** Although the safety instructions and operating manuals for our tools contain extensive instructions on safe working with power tools, every power tool involves a certain residual risk which can not be completely excluded by safety mechanisms. Power tools must therefore always be operated with caution !

## GETTING TO KNOW YOUR SDS+ ROTARY HAMMER DRILL



**PHD520VC**



**PHD624VC**

- |                                |                                        |
|--------------------------------|----------------------------------------|
| 1. Tool Holder                 | 9. Speed Regulating Knob (240v only)   |
| 2. Dust Protection Cap         | 10. Drilling/Impact Select Knob        |
| 3. Unlocking Collar            | 11. Depth Stop                         |
| 4. Side Handle Clamping Screw  | 12. Adjustable Handle                  |
| 5. Ventilation Slots           | 13. Gear Selector/Rotation Stop Switch |
| 6. Rotational Direction Switch | 14. Ventilation Slots                  |
| 7. Switch Locking Button       | 15. Power Cable                        |
| 8. On-Off Switch               |                                        |

# OPERATION & USE

**IMPORTANT:** Check before plugging in that the mains voltage agrees with the voltage specified on the rating plate of the machine.

## SWITCH

The switch (A) on both of these tools is fitted with a locking device, (B) allowing the tool to be operated for long periods of time without interruptions. (Figs.2a and 2b).

Before inserting the plug into the socket, check that the switch is in the unlocked position. When the tool is not to be used for long periods remember to leave the switch device in the unlocked position.


## SPEED REGULATION (PHD 624VC)

An electronic speed regulation system has been fitted to model PHD 624VC. Speed regulation is by means of the knob (E) and trigger (A). Turn the knob (E) in the "A" direction and squeeze the trigger (A) slowly results in speeds from 0 to the slowest pre-selected speed. Turn the knob (E) in the "G" direction and squeeze the trigger (A) slowly results in speeds from 0 to the fastest pre-selected speed. For variable speed set knob (E) at the maximum position and use the trigger (A) only. **NOTE:** Variable speed set knob (E) is fitted to 240v machine only (Fig.2b).

## MECHANICAL GEAR SELECTION (PHD624VC ONLY)


With the gear selector/rotation stop switch (C) one of three positions can be selected. Fig.3.


- 1 = Lower speed range: hammer drilling, drilling with normal twist drills in wood/metal over 8mm dia. and mixing work.
- 2 = Higher speed range: drilling with normal twist drills to 8mm dia.

 = No rotation: light chiselling work.

The switch-over must be performed when the machine is at a standstill. Please observe that the gear selector/rotation stop switch (C) can be switched only one step at a time. Only after the on/off switch (A) (Fig.2) is actuated and the machine starts does the gearbox shift to the selected mode. The gear selector/rotation stop switch (C) can only then be switched again to the next position.

## DRILLING – IMPACT DRILLING

For drilling, place the selector (D) in the  position.

**NOTE:** Only use twist drills with chuck and adaptor. For impact drilling, set to  (Fig.4).

The switch-over must be performed when the machine is at a standstill. Only after the on/off switch (A) (Fig.2) is actuated and the machine starts does the gear box shift to the selected mode.

**Note:** Left rotation when impact drilling damages the drill. Switch off the impact mechanism for diamond core drilling or for mixing work.

## SPEED CONTROL

With the on/off switch (A) the speed can be continuously varied. With light pressure on the on/off switch (A) the machine begins to rotate slowly; with increased pressure, the speed increases. (Fig.2a).

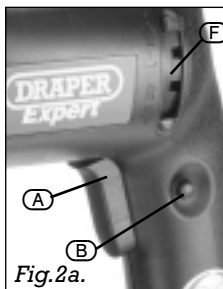


Fig.2a.

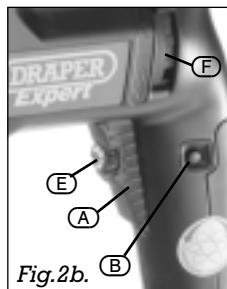


Fig.2b.



Fig.3.

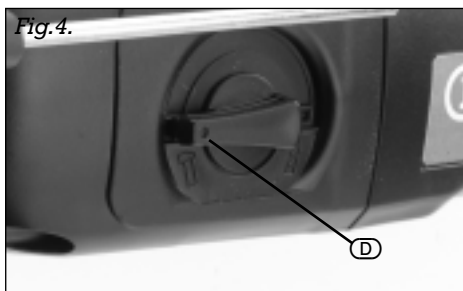


Fig.4.

## ROTATIONAL DIRECTION SWITCHING

Operate the rotational direction switch (F) only when the machine is at a standstill! (Figs.2a & 2b). Take hold of the rotational direction switch (F) on both sides.

**Right rotation:** Set the rotational direction switch (F) to "R".

**Left rotation:** Set the rotational direction switch (F) to "L".

## IMPORTANT:

Press the rotational direction switch (F) in each case to the stop on the housing ie. until it can be felt to engage.

If the rotational direction switch (F) is set between the positions "R" and "L" the machine cannot be switched on.

# OPERATION & USE

## INSERTING TOOLS

### WARNING

**Disconnect the plug from the power supply socket before replacing drill bits or tools.**

The tool holder (G) clamps drilling and chiselling tools without using a chuck key.

Pull back the unlocking collar (J). Insert the tool while turning into the tool holder (G) until it latches. Release the unlocking collar. Check whether the tool is firmly seated. Fig.5.

### IMPORTANT

Always clean and lightly grease the tool shaft before inserting into the chuck.

Take care that the dust protection cap (H) is not damaged. Fig.5.

**Replace damaged dust protection caps immediately or gearbox problems will ensue!**

## REMOVING TOOLS

Slide the unlocking collar (J) to the rear and pull out the tool. Fig.5.

## ADJUSTING THE CHISEL (PHD624VC ONLY)

Set the gear selector/rotation stop switch (C) to an intermediate position. The chisel can now be turned by hand to the required working position. Fig.3.

Return the gear selector/rotation stop switch (C) to the initial position. The chisel latches automatically as soon as it is radially loaded by the working or chiselling process.

## SLIP CLUTCH

If the drill bit becomes jammed or gets caught, the clutch will slip.

Remove the load from the machine immediately by pulling back the drill bit.

Always hold the machine tightly with both hands and assume a secure stance.

Do not apply too much pressure. The performance is not increased in this manner.

The most effective method for chiselling is to break out only small pieces of material.

PHD624VC only.

## DRILL CHUCK (ACCESSORY)

For drilling work in metal, wood and plastic with drills that have normal shafts, a drill chuck (13mm max. chuck opening) is available. The drill chuck is mounted on the adapter (accessory) for screwdriver bits. All common drill chucks (L) with 1/8" x 20 UNF internal threads (13mm max. chuck opening) can be used (Fig.6).

## FITTING THE CHUCK

Clean the threads of the drill chuck (L) (accessory) and the adapter (K) (accessory). Fig.6.


Screw the drill chuck onto the adapter (K) and lock the adapter (K) in the same manner as a drill in the tool holder (G). To tighten a keyless drill chuck, set the gear selector/rotation stop switch (C) (Fig.3) temporarily to position .

Fig.5.

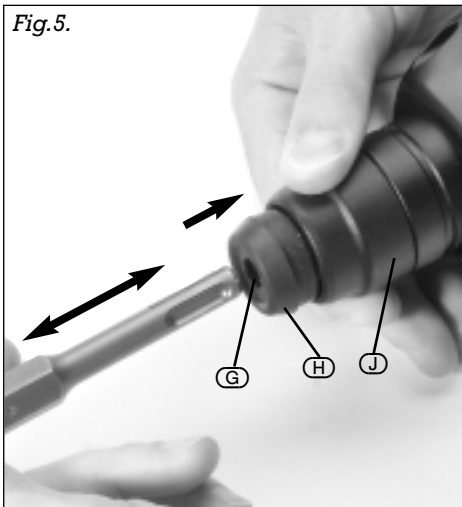
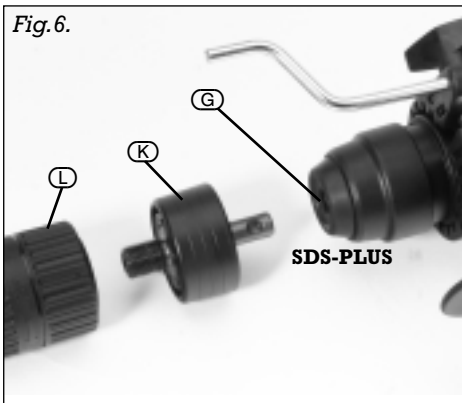


Fig.6.



## IMPROPER USE

The functions and use of this tool are those exclusively indicated in this manual.

**ANY OTHER USE OF THE TOOL IS EXPLICITLY FORBIDDEN.**



## MAINTENANCE & PART REPLACEMENT

Regular inspection and cleaning reduces the necessity for maintenance operations and will keep your tool in good working condition. The tool bearings and gears are life-long lubricated, however it is advised to check the condition of the grease in the head every 100 hours, if necessary replace the grease. The motor must be correctly ventilated during tool operation. For this reason avoid blocking the air inlets with hands. After use disconnect the tool from the power supply and clean carefully, use compressed air through ventilation slots.

### DISPOSAL

At the end of the machine's working life, or when it can no longer be repaired, ensure that it is disposed of according to the standard regulations of the country in which it is being used, and that the disposal operation is carried out by specialized personnel following authorized guidelines.

In all circumstances:

- Do not abandon in the environment;
- Do not dispose of together with solid urban waste products;
- Contact the special recycling centres.

### WARNING

Disconnect the plug from the power supply socket before replacing any parts.

### BRUSHES

The brushes must be replaced after approx. 150-200 working hours, or if they are less than 5-6mm in length.

### WARNING

For correct tool operation always change the brushes in pairs, not separately. The use of original Draper spare parts is recommended. After having fitted new brushes allow the motor to run for at least five minutes without load for the brushes to bed.

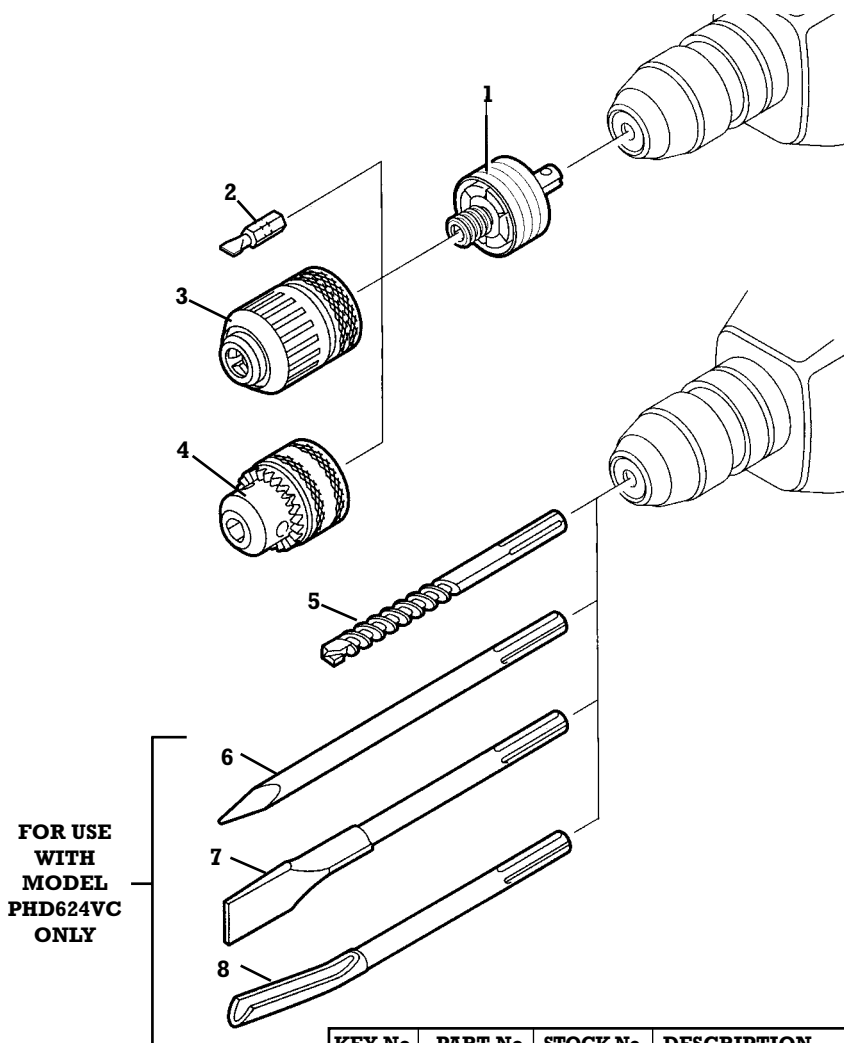
### IMPORTANT:

This operation should only be performed by an authorized person.

### REPLACING THE POWER SUPPLY CABLE

Check that the power supply cable is in good condition, if not have it replaced by an authorized person.

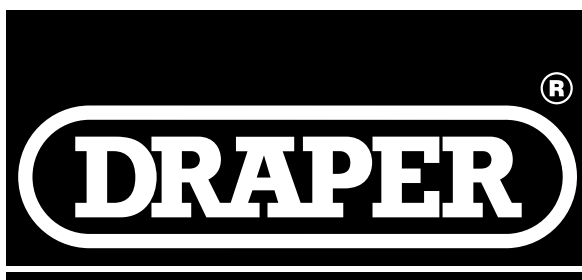
## OPTIONAL ACCESSORIES



KEY No.	PART No.	STOCK No.	DESCRIPTION
1	APT2	58590	SDS Chuck Adaptor $\frac{1}{2} \times 20$
2	SEE DRAPER CATALOGUE		Driver Bit
3	APT3	58597	13mm Keyless Chuck $\frac{1}{2} \times 20$
4	APT4	58598	13mm Geared Chuck $\frac{1}{2} \times 20$
5	SEE DRAPER CATALOGUE		SDS Masonry Drill
6	APT6	58600	Point Chisel (for PHD 624 VC only)
7	APT5	58599	Flat Chisel (for PHD 624 VC only)
8	APT7	58607	Groove/Gouge Chisel (for PHD 624 VC only)



## NOTES



**THE TOOL COMPANY**

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**HELPLINE 02380 494344**

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YOUR DRAPER STOCKIST

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